

GLOBAL RE-INTRODUCTION PERSPECTIVES

Re-introduction case-studies from around the globe



**Edited by
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Cover photo: Clockwise starting from top-left:

- Formosan salmon stream, Taiwan
- Students in Madagascar with tree seedlings
- Virgin Islands boa

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Re-introduction of the bearded vulture into the European Alps

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Introduction

The bearded vulture (*Gypaetus barbatus*) - formerly known as Lämmergeier - was distributed throughout mountainous regions of Africa, Southern Europe and Asia originally. According to the IUCN Red List the species is evaluated as Least Concern. The Bearded vulture is listed in CITES (Annex II) and in the European Bird Directive (Annex I). Especially in Europe the species has dramatically declined in numbers. In the Alps human persecution reached its peak in the end of the 19th century and the species vanished in the Alps completely soon after. In south-eastern Europe some pairs remained until the end of the 20th century. Actually, original populations can be found only in the Pyrenees (Spain & France with approx. 135 pairs), 4 - 5 pairs in Crete (Greece) and less than 10 pairs in Corsica (France).

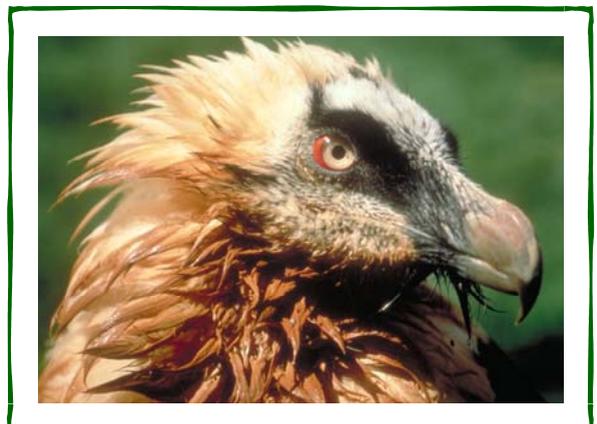
In the Alps the first re-introduction attempts failed in the early 1970s using captured wild birds from Afghanistan. A new re-introduction project based on a captive-breeding stock was started (built up of breeding stock in 1978, which was included to the EEPs in 1985). The first release took place in 1986 in the Hohe Tauern National Park (Austria); other releases followed in the succeeding years in four different release areas covering also France, Italy and Switzerland.

Goals

- Goal 1: Use of captive-breeding and naturally reared (no hand rearing) birds exclusively.
- Goal 2: Re-establishment of a self sustaining population in the Alps.
- Goal 3: Linkages with the neighboring populations to fuse them into a meta-population.

Success Indicators

- Indicator 1: Survival of released birds until they become mature.
- Indicator 2: Reproduction in the



Bearded vulture (*Gypaetus barbatus*)



**Bearded vulture habitat
in the Alps**

wild.

- **Indicator 3:** Natural reproduction which exceeds average number of released birds.
- **Indicator 4:** Natural exchange of individuals between the Alps and neighboring populations.

Project Summary

Feasibility: To test whether the Alps meet the habitat criteria for re-introduction first analyses have been done by Schenker 1979. The geomorphology of the Alps was expected to offer huge potential and high quality habitats and the rough landscape was expected to provide enough food based on natural mortality of domestic and wild ungulates. The disturbance rate could be expected to be rather low and this approach was further developed.

A detailed analysis about historical breeding sites, the potential basis of food, the acceptance of the species by people, the potential of sufficient breeding sites etc. was

provided by Müller & Buchli (1982 & 1989). On that basis four release areas have been finally chosen and to a considerable degree public relations, environmental education and legal aspects had to be communicated.

Implementation: According to the guidelines of the IUCN Re-introduction Specialist Group it was decided to avoid translocation of birds from other sites due to general population decrease. Lots of efforts were focused to establish a breeding network and to improve knowledge about keeping and reproducing the species. An EEP (European Endangered species breeding Program) was found to coordinate as many as 35 different zoos up until now. Special attention was directed to rearing conditions - hand rearing as avoided to produce birds with intact behavior. For the re-introduction a modified hacking-back method was chosen. This method favors natural adaptation in the wild and increases local fixation due to philopatric imprinting. Birds were transferred to well prepared caves (similar to natural breeding sites) and fed without sight or contact of the keepers until fledging. Food was provided in the surroundings until birds did not use it any more (usually six weeks after fledging). Continuous monitoring of behavior was carried out during nestling and fledging phase at the release site.

Post-release monitoring: Until becoming mature bearded vultures explored areas of several ten thousands of square kilometres and even territorial breeding pairs use up to 7,500 km² (Brown, 1983). Monitoring them is only successful at an international level with the following problems in Europe: Harmonization of data is often not possible, different languages hamper communication, monitoring approaches differ between countries and following animals with a huge home range is often extremely difficult. Our aim was to develop a monitoring system based on common data standards avoiding problems caused by different

languages.

Within the framework of the European Bearded Vulture Re-introduction Program (e.g. Frey 1992, Zink 2002 & 2003) we were assigned by the Foundation for the Conservation of the Bearded Vulture (FCBV) to collect and maintain all relevant information and create an online database on a WEB-2 application. The database (a web-application compatible with all common browsers) can only be accessed by authorized users. No user-side installation is required. The program aims at high usability and intuitive handling and supports fast access to complex and large amounts of data by using up to date techniques like AJAX. For data retrieval this application is embedded in a publicly available homepage (see: www.gyp-monitoring.com).

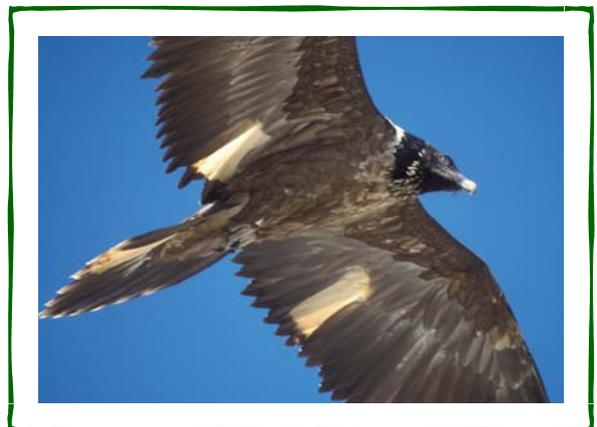
Currently five dialogs (various cross linked tables) for recording observations, individuals, nesting sites, reproduction, and frequency of information are available. For the management of identified individuals 200 fields of input can be used optionally. Up to now the database consists of nearly 40,000 records mostly based on direct observation, telemetry, or genetic analyses and also stud book data. Different services are offered (from read-only to specific download access) depending on user privileges. Besides offering a user friendly interface, visitors are also provided with simple query options and geographical data visualization. The system is multilingual by design and currently available in English, French, German, and Italian. The open architecture of the system allows to extend it to other species as well.

Major difficulties faced

- Enormous mobility of birds circumvents effectiveness of local protection measures.
- Natural return of large predators (especially the wolf) increases illegal use of poison baits.
- Intensive hunting on wild ungulates and the remains after shooting entails considerable risk of lead poisoning.
- Aerial cables such as electric lines, ski-lifts, etc. form a certain risk of collision with lethal consequences.

Major lessons learned

- Natural rearing conditions are essential to produce individuals for re-introduction purpose
- A tool for transnational and multilingual communication has proven value to exchange information and to store data in a common pool. This could be



Bearded vulture in flight

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achieved by the implementation of an online application

- (see: www.gyp-monitoring.com).
- Public relation was the best tool for the improvement of species acceptance.
- Huge protected areas without hunting still seem to offer the best breeding opportunities for the species. This is due both to the risk of illegal shooting but probably even more to the fact that the lead remains of hunting in meat caused considerable damage of poisoning.

Success of project

| Highly Successful | Successful | Partially Successful | Failure |
|-------------------|------------|----------------------|---------|
| √ | | | |

Reasons for success/failure:

- The species started to reproduce in the wild soon after the first individuals reached maturity. Actually a dozen of pairs breed again in the Alps. Since 1997 a total of 43 chicks fledged successfully. Reproduction in 2nd generation in the wild confirmed.
- The drop out rate of birds remained fairly low
- Meanwhile reproductive population output exceeds the quota of releases and the population increases.

References

- Frey, H. (1992) Die Wiedereinbürgerung des Bartgeiers (*Gypaetus barbatus*) in den Alpen. Egretta 35:85-95.
- Müller, J.-P., and C. Buchli (1982) Projekt Bartgeier - Vergleich von fünf potentiellen Wiedereinbürgerungsgebieten im Alpenraum. 1 - 37.
- Müller, J.-P., and C. Buchli (1989) Grundlagen zur Wiedereinbürgerung des Bartgeiers in den östlichen Schweizer Alpen. 1 - 65. 1989
- Zink, R. (2002) Dispersal and survival of Bearded vultures in the Alps. Which habitats are suitable? Results of the international Bearded vulture Monitoring. Clement, Celine. International Conference Conservation and Management of Bearded Vulture populations. 20th - 22nd Juni, 95 - 100.
- Zink, R. (2003) International Bearded Vulture Monitoring (IBM) in 2003. 57 - 59.